



Metro Historic Zoning Commission

CLADDING DESIGN REVIEW SUPPLEMENT

The Commission reviews cladding (siding) for new construction in all types of historic overlays and it reviews replacement (removing existing) siding in most of types of historic overlays. Both the **design and material** are reviewed. Historic cladding includes stone, brick, lap siding (clapboards), shingles (usually used as an accent material), and sometimes board-and-batten or vertical siding (tongue-and-groove) boards (usually used on outbuildings.) This supplement will focus on wood cladding. Please see “Masonry Design Review Supplement” for brick and stone guidance.

NEW CONSTRUCTION: New construction may have cladding that is wood or a substitute material that is similar to wood in workability, design and texture. For new construction, the material is more important, in terms of meeting the design guidelines, rather than the style of cladding.



Cladding material that meets the design guidelines: (See design guidelines for more information.) Wood and fiber cement with a smooth finish.



Cladding material that does not meet the design guidelines: (See design guidelines for guidance for more information.) Vinyl, aluminum, Exterior Insulation Finishing System (EIFS)

REPLACEMENT: In most cases, the existing siding should be repaired rather than replaced. When replacement is necessary, the cladding should match the historic design and material. There are multiple advantages to preserving wood siding over replacing it with a new siding:

- Wood siding has a potential life span of more than 200 years; whereas, synthetic siding has a potential life span of 50-60 years. Old-growth wood tends to have tighter growth rings, making it denser and more durable than modern lumber which is usually harvested from trees less than thirty years old.



Figure 1: Ring patterns on old-growth wood (left) and new-growth (right) reflects why old-growth wood is stronger and lasts longer than wood commonly available today. Image from everythingmaker.com

- Synthetic siding is often thought to be more energy efficient; however, most building energy loss is through the roof so replacement siding often does not provide a return on investment. Before adding insulation to walls, experts encourage improving attic insulation, make sure

windows are in good repair and painted, add storm windows, insulate basements and crawlspaces, seal and insulate ducts and pipes, weather strip doors and add storm doors.

- Synthetic siding is often thought to be less maintenance. Old-growth wood siding can be repaired but many replacement materials cannot so when they fade, warp or are damaged they have to be fully replaced.

ASSESSING DAMAGE/CONCERNS: There are two types of forces that cause most of the damage to wood, environmental (water, wind, sunlight) and biological (animals, plants, fungus). Each of these forces can cause significant damage, but water can be the hardest to detect because it can penetrate wood as an invisible vapor.

When the air inside a home is more humid than the air outside, water vapor in the air will pass through permeable materials of the structure to reach the outside. This process is reversed when the outside air is more humid than the inside air. Wood is generally permeable to water vapor, and other than occasional discoloring it is typically left undamaged. However, prolonged saturation that results from water vapor condensing inside a wall can encourage fungal growth, which will damage wood and have negative effects on occupants' health.

To prevent condensation in newly constructed homes, builders typically install a vapor diffusion retarder (i.e. vapor barrier) within the perimeter walls. In areas where it is hot and humid for most of the year, the preferred location for a vapor barrier to be installed is the side closer to the warmer air most of the time, typically underneath the siding. In the Northeast, a vapor barrier is more effective when installed on the inside of the framing, underneath the drywall.

For existing homes built without a vapor barrier, however, it is not necessary to remove the siding to install one after-the-fact. Sealing leaks and gaps in walls and applying paint and other wall treatments is usually sufficient for impeding vapor diffusion on existing structures in most locations (Energy.gov). Additionally, local building codes usually allow for exceptions to certain requirements like insulation and vapor barriers in order to facilitate preservation of historic siding (Metro Code sections 16.24.210, 16.48.010, and 16.48.020)

Recommended Treatments:

In order to prevent damage to wood siding, property owners should periodically examine the interior and exterior of the structure to identify loose boards and areas of dampness, discoloration, or decay. Identifying concerns and correcting them early can prevent them from becoming major issues.

Regular Maintenance and Protection

Wood siding should be cleaned regularly, approximately once every other year.

Cleaning can be done with a solution of mild detergent and water, applied with a light-pressure spray and brushed with a natural or nylon bristled brush. It is a good idea to test any new product or treatment in an inconspicuous area

first.

Cleaning with abrasives and media-blasting is not recommended.

Siding should be painted roughly every eight to ten years, or as needed. Prepping and scraping old paint may be necessary.

Gutters and downspouts should be cleaned and kept in good working order to divert rainwater away from walls and foundation.

Shrubby and other vegetation should be trimmed to not touch walls, ivy should not be permitted to grow on the building.

Periodically inspect the property and the structure for termites, carpenter bees, and other wood-boring insects.

Repair

Loose boards should be secured with appropriately sized non-rusting nails.

Small cracks and chipped edges of siding boards can be patched with an exterior-grade wood filler or a paintable consolidant.

Damaged or deteriorated portions of boards may be removed, leaving viable sections in place.

Material in good condition may be moved from rear and non-visible areas to repair visible areas at the front.

New board sections, matching the material, dimensions, and profile of the original siding should be pieced in to match the existing.

Replacement

When repair is not an option, wood siding should be replaced with wood siding matching the dimensions and profile of the original siding.

Due to the scarcity of old-growth wood, consider using a durable fast-growing species of wood like cypress or paulownia, or reclaimed wood siding when possible.

MORE INFORMATION

For more information see the [National Park Service's Technical Preservation Briefs and Tech Notes](#). These documents provide insight on issues such as removing paint, dealing with water infiltration, protecting a building from landscaping, and wood repair. Additional reading:

["Caring for Your Historic Home: Preserving L.A.'s Legacy"](#)

["Guidelines for Exterior Woodwork"](#) by the Township of Hopewell

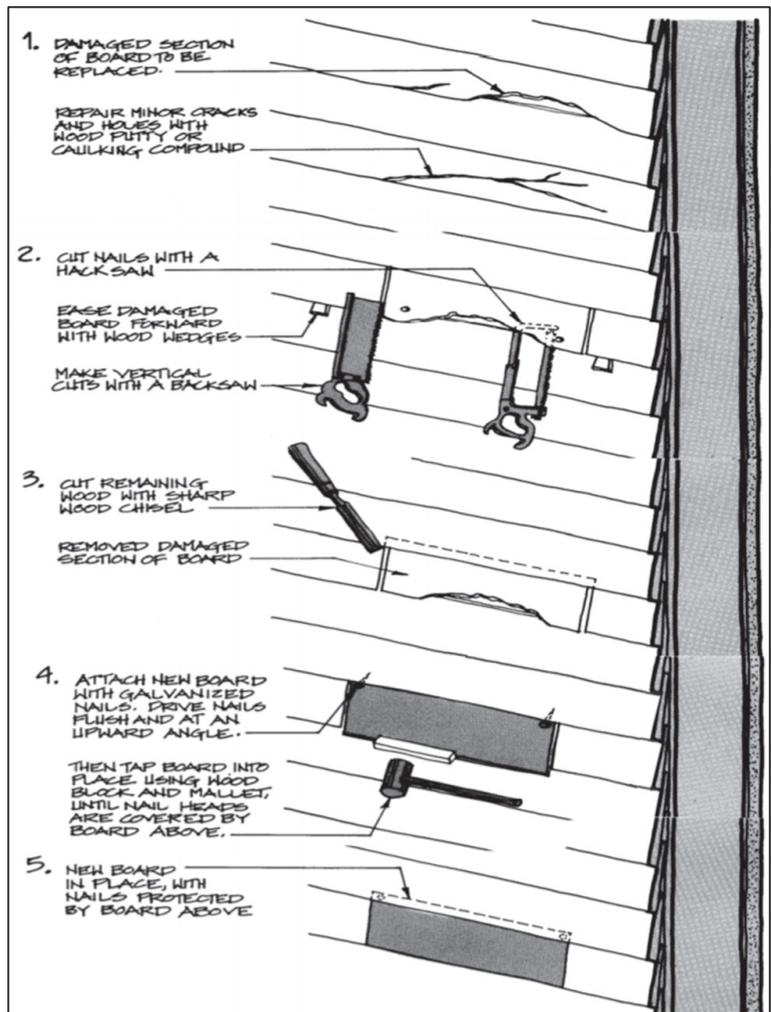


Figure 2: Repairing wood siding from the [Manual for Owners of Historic Buildings](#), published by the State Historic Preservation Office South Carolina Department of History

[“Historic Preservation Design Guidelines”](#) Wellesley Massachusetts

[“Wood Structure Exteriors”](#) Excerpt from Design Guidelines for St. Charles IL

[“Town of Exeter Historic Districts Design Guidelines”](#)

[“Alternative Materials and Their Use in Historic Districts”](#) City of Columbus, OH

[“Vapor Barriers or Vapor Diffusion Retarders,”](#) Energy.gov